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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/747,955	12/27/2000	Tadayoshi Iijima	P107424-00020	3185

23353 7590 08/08/2002

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EXAMINER

UHLIR, NIKOLAS J

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 08/08/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

AS-11

Office Action Summary	Application No. 09/747,955	Applicant(s) IIJIMA, TADAYOSHI	
	Examiner Nikolas J. Uhler	Art Unit 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 16-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 16-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-6 and 16 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In the instant case, claims 1-6 and 16 recite the limitation "said functional film being a functional film other than electrical conductive film." This is a negative limitation. The applicant is referred to MPEP 2173.05(i), which states, "any negative limitation or exclusionary proviso must have basis in the original disclosure. If alternative elements are positively recited in the specification, the may be explicitly excluded in the claims. See *In re Johnoson*, 558 F.2d 1008, 1019, 194 USPQ 187, 196 (CCPA 1977)." This section of the MPEP specifically states that the limitation "other than" is a negative limitation that is indefinite because "it is an attempt by inventors to claim the invention by excluding what the inventors did not invent, rather than distinctly and particularly pointing out what they did invent. *In re Schechter*, 205 F.2d 185, 98 USPQ 144 (CCPA 1953)."

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In the instant case, the applicant recites the limitation "the functional film being other than an electrically conductive film" in claim 1, and then in claim 5 recites the limitation that the functional film is a "magnetic film, a ferromagnetic film, a dielectric film, a ferroelectric film, and an electrochromic film, an electroluminescent film, an insulating film, a light absorbing film, a reflecting film, a reflection preventing film, a catalyst film, and a photocatalyst film." It is unclear to the examiner how a the film can be "other than an electroconductive film" as required by claim 1, when many if not all of the functionalities stated in claim 5 are in fact conductive films in addition to another functionality. This is particularly true for dielectric films, which are typically manufactured by imbedding conductive particles into a nonconductive binder, resulting in a material having some level of conductivity, and reflecting films, which are typically manufactured from conductive materials such as metals or conductive inorganic materials such ITO. Clarification is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-6, and 29-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Oishi et al. (US5935717).

7. The limitations 1. "comprising a compressed layer of functional fine particles that is obtained by compressing a layer containing the functional fine particles that is formed by application onto a support" (claims 1 and 29) 2. "Wherein said layer containing said functional fine particles is formed by applying a liquid in which the functional fine particles are dispersed onto the support and drying the liquid" (claims 2 and 30) 3. "Obtained by compressing with a compression force of at least 44 N/mm²" (claim 4) are product-by-process limitations and do not appear to be further limiting in so far as the structure of the product is concerned. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113. In the instant case, the prior art teaches all of the limitations of the final product (functional film comprising particles of a defined size, a binder of a specified type, and a support), even though the prior art product is made by a different process.

8. Oishi et al. teaches a functional film comprising an organic film support, and an inorganic thin film containing functional particles formed onto the support (column 2, lines 33-40). In addition, the surface of the support may be coated with a coupling agent to improve the adhesion of the coating (column 5, lines 24-26). The inorganic thin film formed onto the support is formed by homogeneously dispersing functional fine particles

into and inorganic sol solution, coating the sol/functional particle solution onto the support, and converting the solution coating to an inorganic thin film by irradiating the sol coating with light (column 5, lines 15-23). In addition, the surface of the support may be coated with a coupling agent to improve the adhesion of the Sol coating (column 5, lines 24-26). Oishi et al. teaches a specific embodiment, wherein a support comprising Polyethylene Terephthalate (PET) is dipped into a sol solution containing 7-50nm TiO_2 particles, after which the coating is dried and irradiated U.V light. The resulting film exhibited a photocatalytic function (column 7-9 embodiment 5). Oishi et al. teaches another specific embodiment in which a PET film is dipped into a sol solution containing 5-30nm Indium Tin Oxide (ITO) particles, after which the coating is dried and irradiated with UV light. The resulting film was transparent and exhibited antistatic/antireflection properties (column 6, embodiment 1). ITO is well known in the art to be a conductive material, thus the film taught by Oishi is accurately described as a transparent conductive film.

9. Claims 17-20 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Parr et al. (EP0297678).

10. The limitations: 1. "obtained by compressing a layer containing the conductive fine particles.... at a temperature below the glass transition temperature of said support" (claims 17 and 23), 2. "formed by applying a liquid in which the conductive fine particles are dispersed onto the support and drying the liquid" (Claim 18). and 3. "obtained by compressing with a compression force of at least 44 N/mm^2 (claim 19) are product by process limitations and do not appear to be further limiting in so far as the structure of

the product is concerned. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113. In the instant case, the functional film taught by Par exhibits all of the required end product limitations (conductive film, formed on resin support), although it is made by a different process.

11. Parr et al. teaches a method for forming a conductive layer of metal on a substrate. This method comprises depositing small metal particles onto a substrate and exposing them simultaneously to pressure and heat (column 1, line 53-column 2, line 2). The particles are typically nickel or copper which have a particle size preferably below 10 μm and are preferably lamellar in shape (column 2, lines 13-26). Although not specifically stated, it is well known that copper and nickel are metals, and therefore are conductive. The substrate is a thermoplastic or thermoset resin that has a softening point above 200⁰ Celcius (Column 2, lines 34-48). After the particles are deposited on the support, pressure of 5-100 MPA (5-100 N/mm²) is applied to deform the particles (column 4, lines 51-57). Heat is applied to render the coating conductive (column 5, lines 6-12).

12. Claims 17, 21-22, and 24-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Kimura (JP10258486).

13. The limitations 1. "comprising a compressed layer of functional fine particles obtained by compressing a layer containing the functional fine particles" (claims 17 and 24), 2. "Wherein said compressed layer of conductive fine particles is obtained by compressing a layer containing the conductive fine particles and no binder resin onto the support, and the being impregnated with a transparent substance after compression" (Claim 24), 3. "Wherein said layer containing the conductive fine particles is formed by applying a liquid in which the conductive fine particles are dispersed onto the support and drying the liquid" (claim 25), and 4. "Compressing with a compression force of at least 44 N/mm²" (claim 26) are product by process limitations and do not appear to be further limiting in so far as the structure of the product is concerned. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113. In the instant case, the prior art (Kimura) meets all of the end product limitations (transparent conductive film comprising conductive particles of ITO and a binder).

For the purpose of this examination the examiner has relied upon a machine translation of the Kimura patent to support this rejection.

14. Kimura teaches a method for manufacturing a transparent conductive resin film. This method comprises the following steps: 1. Supplying a polyethylene terephthalate

base film. 2. Coating the base film on ones side with an ink composition that comprises Indium Tin Oxide (ITO) powder mixed in a resin and 3. Calendering the coated base film by passing it through a calender roller (abstract). Websters Dictionary, 10th edition 1998 defines "calender" as "to press between rollers to smooth or glaze." The ITO particles have a particle size typically less then .2 μm (page 5, section6). The resin film containing the ITO particles is typically a thermoplastic such as an acrylic or polyester system or a UV curing thermoset resin, such as an epoxy (page 5 section 6). Regarding claim 24, wherein the applicant requires that the layer of compressed conductive particles be formed onto a support without a binder, after which the layer is impregnated with a transparent substance after compression. The examiner takes the position that this is a product by process limitation, and that there is no functional difference between a layer that has been impregnated with a transparent substance after it is formed, and a layer that is impregnated with a transparent material as it is formed onto a substrate. Although not specifically taught as substances suitable for impregnating an ITO film, the materials specified by Kimura for containing the ITO particles match the materials specified by the applicant on page 9 of the specification. Therefore the materials specified by Kimura necessarily meet this limitation.

Response to Arguments

15. Applicant's arguments with respect to claims 1-6 and 16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolas J. Uhler whose telephone number is 703-305-0179. The examiner can normally be reached on Mon-Fri 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0389.

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August 5, 2002

Vivian Chen

Vivian Chen
Primary Examiner